Leavenworth National Fish Hatchery
Water Intake Project and Icicle Creek Restoration Project

GOAL (Group Objectives and Logistics) Team
Stakeholder Objectives Development – DRAFT Meeting Notes

September 06, 2006
NMFS/FWS Offices, Room 261, Lacey, WA

Attendees: Dale Bambrick (NMFS), Kurt Beardslee (Washington Trout), Dennis Carlson (NMFS) Brian Cates (USFWS), Julie Collins (USFWS), Tom Cook (Reclamation), Jim Craig (USFWS), Jessica Gonzales (USFWS), Jan Grote (USFWS), Mark Hersh (Washington Trout), Chris Jansen Lute (Reclamation), Lori LeVander (WA DOE), David Morgan (USFWS), David Murillo (Reclamation), David Palumbo (Reclamation), Dave Schneider (WA DOE), Tom Scribner (Yakama Nation)

Step 1: Identify Items Believed to be Important, Group Objectives, and Areas of Concern

1. **Water Intake Project**
   a. Ladder
      i. Upstream Passage (C)
         1. Coho and Chinook
   b. Meet Hatchery Production Goals
   c. Upgrade Screening at Diversion
      i. Eliminate Entrainment
   d. Evaluate Pump Back System
   e. Replace Pipeline
2. **Icicle Creek Restoration Project - Structure 5 (C)**
   a. Maintain Minimally Invasive (C)
      i. Footprint (C)
      ii. Degree of Human Interaction (C)
   b. Minimize and/or Restore Lost Opportunities (C)
   c. Minimize Stray Rates (C)
   d. Must be logistically Feasible
3. Hatchery O&M
   a. Maintain Production Targets
   b. Maintain Production Flexibility
   c. Assure Redundancy
   d. Water Supply Requirement
      i. No Adverse Effect to Fish

Key: C: Identified Areas of Special Concern

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4. Screen at Intake to Eliminate Entrainment (See also Water Intake Project)
5. Fish Passage at the Intake (See also Water Intake Project) (C)
6. Ability to avoid Disease and Provide Pathogen Free in Water (as disease free as possible)
7. Ability to Treat Water
8. Water Quality Standards (C)
    a. pH
    b. DO (9.5 mg/L)
    c. T (16 C)
9. Continued ability to collect Brood Stock
    a. LNFH
    b. Tribe
10. Improve Steam Flow (Addressed in Recently Published Biological Opinion) (C)
    a. Water Level Icicle Creek
11. Restore Ecological Processes as Related to Hatchery Operations (C)
12. Ability to Regulate Flows at Headgate (Structure 2) (C)
    a. Ground Water Recharge (C)
    b. Flood Control (C)
13. Ensure Spillway Attraction Water (C)
14. Is Compatible with Laws (C)
    a. ESA (C)
    b. CWA (C)
    c. Washington State Fish Passage (C)
    d. Safety
    e. All applicable state and federal laws
15. Protect Tribal Interests
    a. Fishery
    b. Cultural
    c. Spiritual
16. Protect Native Fish (C)
17. Flood Control
    a. O&M
    b. Passage (C)
18. Enable Shared Water Use
19. Accountability and Monitoring Program (C) :
    a. Determine Data Points
    b. Establish Collection Method and Personnel
    c. Implement Review Program
20. Economic Cost (C)

Key: *C: Identified Areas of Special Concern*

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Step 2: Distill and Develop Goals/Objectives that are Identified as an Area of Concern

1. **Water Supply**
   a. Goals/Objectives
      i. Provide a reliable and adequate water supply compatible with in-stream flow and water quality standards.
   b. Possible Solutions
      i. Gravity Water Supply
         1. New 1 mile plus pipeline with similar alignment to existing pipeline.
         2. Same point of diversion (POD).
         3. Will require pump back system.
            a. Will improve in-stream flow.
            b. Will provide tempered water for frazil ice.
         4. May include land issues including ownership.
      ii. Pressure System
         1. May move POD downstream, possibly to hatchery.
         2. No significant pipeline required.
         3. No pump back requirement.
         4. May need to maintain supply to irrigator.
            a. Cascade Irrigation District (CID) turnout is down stream of current POD.
            b. May have to maintain existing diversion for irrigator.
               i. Will need to maintain screening.
            c. May explore all options to provide CID water (including buyout)
         5. May not need to screen at new POD.
      iii. Screening at intake at current diversion shall be compatible with fish screen/passage laws.
      iv. Fish passage at intake at current diversion shall be compatible with fish passage laws.
         1. Upstream
         2. Downstream
   c. Range
      i. Maximum, Achievable
         1. Invisible to Fish
      ii. Minimum, Acceptable
         1. Appropriate Flows
         2. Redundancy of Flows
         3. Improved Geomorphic Conditions
         4. Ability to Control Temperature
            a. Shade and Natural Conditions
            b. Correct Temperatures

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5. Effluent
    a. Nutrient Control
    b. Feces Control
6. Compatible with ESA
7. Compatible with CWA

2. **Icicle Creek Restoration Project -Structure 2 Modification**
    a. Goals/Objectives
        i. Provide fish passage
        ii. Restore a more historic flow regime
    b. Possible Solutions
        i. Vertical Slotted Weir
            1. Passage of some of the fish some of the time
            2. Reduces flow capacity
            3. Does not pass juvenile fish well (reduces habitat)
        ii. Roughened channel entire width of historic channel's upper reach
        iii. Construct step pool structures
        iv. Abandon structure 2
            1. Will need to determine manner in which to recharge well system/ground water
                a. Some existing wells are in a shallow aquifer supplied by infiltration from the head of the flood control channel
                b. May have legal issues regarding utilizing surface water to recharge wells
            2. Will need to address flood control issue
            3. Will need to maintain pool characteristics to attract fish
    c. Range
        i. Maximum, Achievable
            1. Allow for annual flexibility, minimize impediments, and keep flows as high as possible
        ii. Minimum, Acceptable
            1. Some Impediment

3. **Icicle Creek Restoration Project -Structure 5 Modification**
    a. Goals/Objectives
        i. Wild fish passage and maintain tribal fishery (Spring Chinook).
            1. Tribe will allow some Spring Chinook leakage (assume May 15 to July 7)
    b. Possible Solutions
        i. Fish Trap and Sorter
            1. Negative
                a. Need for staff
                b. Fish Avoidance Behavior
                c. Economic Cost
                d. Need to reduce flows

e. Excessive Fish Handling Aspect
2. Positive
a. Better Flow Control
b. Ability to control and sort fish
ii. Inflatable weir
iii. Manipulate Pickets
c. Range
i. Maximum, Achievable
1. Allow for annual flexibility, minimize impediments, and keep flows as high as possible
ii. Minimum, Acceptable
1. Some Impediment (Up to Two Months)

4. **Monitoring Program**
a. Goals/Objectives
i. Develop a monitoring program to satisfy stakeholders, including what is monitored, when monitoring occurs, and who performs and reviews monitoring
b. Possible Solutions
i. Develop plan, data points and collection methods jointly
ii. Establish a percentage of third party data collection
iii. Establish a percentage of Services collection
iv. Establish a percentage of third party data review
1. Independent Laboratory
2. National Academy of Sciences (NAS)
v. Establish a percentage of Services data review
c. Range
i. Maximum, Achievable
1. All Third Party Performance
ii. Minimum, Acceptable
1. Some Service Performance

5. **Compatibility with Laws**
a. Goals/Objectives
b. Develop a plan to ensure compatibility with appropriate and applicable laws such as ESA, CWA, Washington State Fish Passage
c. Possible Solutions
i. See objective development for Water Supply, Structure 2 Modification, Structure 5 Modification and Monitoring
d. Range
i. Maximum, Achievable
1. 100% within 5 years
ii. Minimum, Acceptable
1. Continual incremental steps with water system addressed first followed by fish passage

6. **Disease**
    a. Goals/Objectives
        i. Minimize disease to wild fish and hatchery fish
        ii. Release healthy hatchery fish
    b. Possible Solutions
        i. See objective development for Water Supply, and Monitoring
    c. Range
        i. Maximum, Achievable
            1. No increase in disease to wild fish and hatchery fish
        ii. Minimum, Acceptable
            1. At a level that does not adversely impact production

Step 3: Project Alternative Solutions Study (PASS) Technical Team Development*

Expertise Area
1. Fish Passage and Screening
2. Biologist
3. Fish Health
4. Hydro Geologist
5. Ground Water/Hydrology
6. Hydraulic Engineer
7. Geo-morphologist
8. Ecologist
9. General Civil Engineer

GOAL Team Point of Contact for Team Member Recruitment
1. Dale Bambrick
2. Chris Jansen Lute
3. David Morgan
4. Kurt Beardslee
5. Julie Collins

*A decision will be made shortly on whether it is appropriate to facilitate the technical team as a Value Engineering Study. This would not change the focus of the team but would modify some preparation and study steps.

Deleted: Miscellaneous Contact Information¶
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